ABSTRACT

A compact smoke alarm assembly (10) is disclosed. The assembly (10) comprises: a smoke detection chamber (20) defined by a body (22) having a plurality of openings for allowing airflow therethrough, the body (22) having a sound inlet aperture (25); a smoke detector (30) mounted to the body for communication within the chamber (20); an electrical circuit operatively connected to the smoke detector (30), the circuit providing an electrical signal when the smoke detector (30) detects smoke in the chamber (20); and a piezoelectric disc (40) mounted external to the chamber adjacent to the sound inlet aperture, the piezo disc (40) operable in response to the electrical signal to generate sound. The smoke detection chamber (20) is sized substantially in accordance to the Helmholtz formula to cause resonance at the operating frequency of the piezo disc (40).